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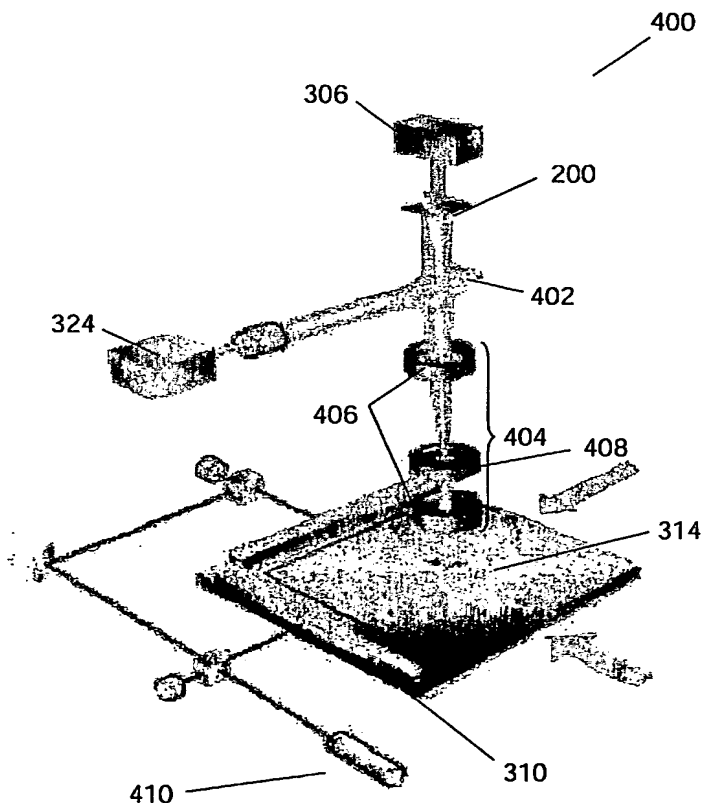
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(54) Title: LITHOGRAPHY SYSTEM USING A PROGRAMMABLE ELECTRO-WETTING MASK



(57) Abstract: A maskless lithography system is described having a programmable mask to allow performing several lithographic steps using the same mask. In every lithographic step, the corresponding pattern is obtained by providing a digital pattern to the programmable mask. The programmable mask includes an array of pixels which are based on the electro-wetting principle. According to this principle, every pixel has a transparent reservoir containing a first, non-polar, non-transparent fluid and a second, polar, transparent fluid which are immiscible. Applying a field to the reservoir allows to displace the fluids with respect to each other. This allows to make the pixel either transparent or non-transparent. This lithographic programmable mask allows high resolution and fast setting and refreshing. A corresponding method for performing maskless optical lithography also is described.

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